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THE liberal offer of six money prizes for the best student work in judging cattle, made by W. B. Smith & Son, Columbus, O., is only another manifestation of the interest in the School of Agriculture. The competition was passed upon by Mr. A. T. Dempsey, who gave the prizes to the following students, respectively: 1st prize, Mr. Smith; 2d, Mr. McClelland; 3d, Mr. Ball; 4th, Mr. Coddington; 5th, Mr. Gilmore and 6th, Mr. Sweet. It is fair to add that Mr. Flickinger, who had this work last year, and for this reason was barred out of the contest for the prizes, scored with a grade of 100 per cent. Surely the good from such contest is inestimable.

We notice that the name of Professor Hunt appears in three prominent committees of the Association of Agricultural Colleges and Experiment Stations. He is especially honored in being placed on a committee of five, having for his colleagues four college presidents.

THE Townshend Agricultural Society has begun preparations toward the purchase of a large portrait of the late Dr. N. S. Townshend. The portrait was painted by Silas Martin, the celebrated painter of Columbus. Circular letters have been sent to every alumnus and ex-student in agriculture, stating the matter and asking a contribution of one dollar each. The list of contributors will be published in the Agricultural Student. The painting has been purchased for one hundred dollars, and upon the payment will be given to the University and placed in the reception room. It is hoped every reader of this will give the matter his immediate attention and forward one dollar to either of the committee C. W. Burkett, J. T. Dallas or A. G. Abbott, care Horticultural Hall, O. S. U., at once.

THE departure of Mr. Dunlap from the University will be felt by all. His connection with the University, in the interest of all College affairs, is universally known. Prominent in the society hall, in the battalion or in athletics, he was known by every student. But football was especially dear to him and it was greatly due to his untiring efforts that this season resulted so successfully.

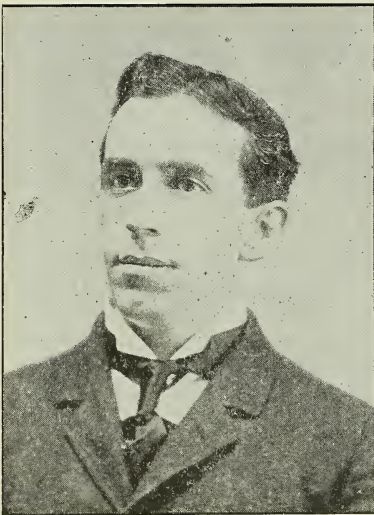
Since the football season has ended University spirit is becoming manifested in the oratorical contest, which will be held in January. Special interest is being taken in the fact that business men of the city are entirely in favor with the organization and are using their time and money in contribution to the success. The liberal donations of Z. L. White & Co. and A. E. Pitts & Co. are complete evidences that business men of the city are becoming interested in O. S. U. affairs.

### Football.

The football season of '95 has ended even more gloriously than our most conservative followers anticipated. True, two defeats were scored against us, yet the victories won have raised O. S. U. in the estimation of the athletic world, and given her the proud place of the best team of the state. There was no discord manifested among the players throughout the entire season. The superiority of Dunlap's playing is acknowledged by all, though Nichols, Howard, French and Crecelius did some wonderfully fine playing. In French, the captain of next year's team, we have a man who, from his ability as a player, will inspire the team with confidence, and with the combination of qualities we have in the other players we need have no fear for the team of '96.

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Prof. William David Gibbs, M. Sc.,  
Assistant Professor of  
Agriculture.



William David Gibbs, Assistant Professor of Agriculture at the Ohio State University, was born at Winchester, Illinois, March 15, 1869. He

spent his boyhood days and early years on his father's farm, securing in the meantime a primary education in the local common schools and at the Winchester High School, where he graduated in 1888.

In the fall of 1888 he entered the agricultural course of the University of Illinois. The year following he was out of college, but the next year he returned with scholarship. During his sophomore summer vacation and during his junior year he acted as foreman of the University farm. In June, 1893, he graduated from the University of Illinois with the degree of B. Sc. At this time he was appointed to a fellowship in agriculture, U. of I., and pursued special work in animal husbandry and history of agriculture and at same time taught bacteriology and stock feeding. Mr. Gibbs then graduated in 1894 with the M. Sc. degree and was recommended as one of the best students ever graduating from the University of Illinois.

During the winter of 1895 Mr. Gibbs pursued special postgraduate work in Soil Physics at the University of Wisconsin under Professor King. In March, 1895, he was called to the foremanship of farm and assistant in agriculture, Ohio State University. He was in the latter position but two months when he was called as expert assistant in the Division of Agricultural Soils, Department of Agriculture, Washington, D. C. A month later the position as Assistant Chief of the Department was tendered him, but having previously accepted the Assistant Professorship of Agriculture at O. S. U., he refused the offer.

Professor Gibbs is a man of large physique, height 5 ft. 11½ inches and weighs 169 pounds. He is popular with the students, an earnest and appreciative student himself; enthusiastic at all times in his work, his endeavors are to advance the cause and practice of agriculture to a higher



plane and to greater usefulness. The selection of Professor Gibbs makes quite an addition to the agricultural department.

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### Judging Cattle.

BY A. T. DEMPSEY, SEC. OHIO ASSOCIATION JERSEY CATTLE BREEDERS.

Judging cattle is one of the things that might be classed with the lost arts, and from the conflicting opinions of breeders and so-called experts so often displayed in the show yard, it is safe to believe that the "art" has never been found. The chief cause for this state of affairs is the fact that we have no general or acknowledged standard, but instead each breed of cattle has its scale of points and the expert judge a type of his own. As long as this state of affairs continues to exist cattle judges, like all great men, will continue to disagree. For judging cattle we have two modes—by comparison and the score card. Of these two methods we prefer the former, believing it to be the most correct and satisfactory. The score card is a dangerous thing even in the hands of an expert and its popularity is fast on the wane. Many points of the score card made essential to a good cow, such as escutcheon, tail, navel, withers, back, open jointed, ears, forehead, etc., have been exploded by the old cow by her practical demonstrations in the dairy. Many of our most noted performers among dairy cows were partially or wholly devoid of these fancy points, thus plainly proving that you "cannot always tell just what a cow can do by testing her with the score card." In judging a dairy cow the first thing to be considered is constitution; this is essential as the cow, no matter how good, is comparatively worthless without it. Her size should be normal of the breed that she represents. Her form wedge shape with plenty of capacity for storing food, and hide

loose. The other important points to be considered are the loins, hips, udder, teats, milk veins and disposition. If she fills the requirements in these essential points do not pass her by if she should be shy in head, short in tail, or lacking in escutcheon. The position of a cattle judge is a trying one and unlike the cow his back should be broad and strong. To the student aspiring to be an expert judge my advice is "don't." No matter how well and honestly the judge performs his work he receives the commendation of but one party (the man that gets the prize), and reaps the vengeance of all the other competitors.

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### *Ed. Agricultural Student:*

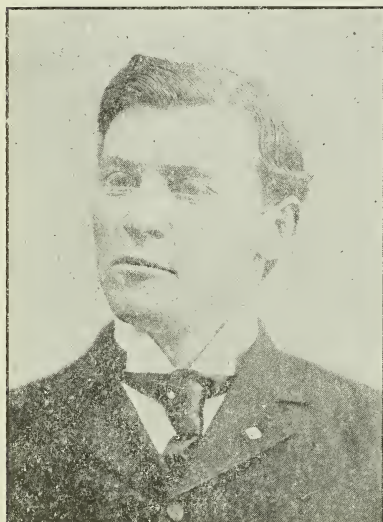
We learn with sorrow and regret that Exile of St. Lambert, 13,657, is dead. He died Nov. 10th, 1895. He leaves behind him the greatest wealth ever recorded in the annals of the Jersey world; each son and grandson, daughter and granddaughter receive by inheritance untold riches, fame and glory. The wonderful reign of this great king has been complete. Responsive to this sad news New York telegraphs Ohio for Exile of St. Lambert 46th, 27,724, and this best bred son of the great "old Butter King" will return to his native soil where he will mount the throne and continue the good work of his illustrious sire and flourish in the hands of the wide-awake and now famous "Ingamells Bros." of Fulton, N. Y.

We are pleased to inform the public that Exile of St. Lambert 46th, 27,724, leaves behind him in our "Blooming Grove Herd" many daughters by tested daughters of the only original Exile having 70% of this greatest of all blood. In addition to these Exiles mentioned we have a fine lot of pure St. Lambert Exile heifers, by tested dams, sired by Exile of St. Lambert 46th, who will be bred to Exile of St. Anne's 32,559, a pure St. Lambert son of Exile having 93¾% Exile

blood by an 87½% sister in blood to Exile, who thus gives such progeny more Exile blood than can possibly be produced by any other breeder.

Blooming Grove Stock Farm,  
MRS. A. M. HALLOCK,  
Columbus, O.

Renick W. Dunlap.



Renick W. Dunlap, B. Sc., was born Oct. 21, 1872, near Kingston, Pickaway county, O.

He attended the district school until he was thirteen years of age, when he entered the Kingston High School and there remained for four years. In the fall of 1890 he entered the Ohio State University and for five long years withstood the trying ordeal of the many examinations, when he graduated in June of 1895 with his class.

At the beginning of his college career Mr. Dunlap was not very noticeable as his time had not yet come. After a few terms his ability and attainments were beginning to point him out as one of the future leaders in the class of '95. He was a member of the Horton and Townshend literary societies, serving as president of the latter in the fall of his senior

year. Mr. Dunlap was also a member of the battalion, first as private, and after several promotions received the distinguished honor of major.

In athletics Mr. Dunlap was making an enviable reputation as a football player, and in recognition of his ability he was elected captain and manager of the team for the season of 1895, which position he has ably filled to the credit and honor of the University.

Outside of college life he is making his mark, being recently elected secretary of the Kingston Institute and one of the speakers of the State Dairy Association.

Although Mr. Dunlap has had some very flattering offers to teach, he says he prefers farming, and after this term will be permanently located at Kingston, O., where he will assist his father in carrying on an extensive business in his chosen work.

Mr. Dunlap completed the agricultural course in June last, and returned to take up a post-graduate course in Animal Husbandry and Soil Physics. He has been one of the editorial corps of the AGRICULTURAL STUDENT since its beginning, and now is on the staff as alumni editor.

At the close of the December term Mr. Dunlap will leave the University and permanently locate at Kingston. He will assist his father in the management of a 1,000 acre farm, where they will carry on an extensive business of stock raising and general farming. His departure will be a severe loss to the University. For the past four years he has been closely allied to every phase of University affairs, and his going away will be deeply felt by everyone.

Glancing back over his college career we find him in nearly every organization, working hard and unselfishly for its advancement.

He was a member of the first University Senate as a representative of the junior class, and did much to aid

in the organization of this body. He was also Arbor Day orator of the junior class in 1894.

Mr. Dunlap is a young man of unusual promise, of exceptional qualities and brilliancy of mind—a man in the highest sense.

### METHODS OF INSTRUCTION

In Agriculture—Extract from Lecture by Prof. Thomas F. Hunt, M. Sc., Before the Association of American Colleges and Experiment Stations, Held at Denver During July, 1895.

I have no theories with regard to methods of instruction in agriculture. As Miss Lydia Hunt, Superintendent of Indian Schools, San Carlos, Arizona, said last week with regard to the Indians, I believe in doing the best you can under the circumstances.

Two Agricultural College men fell to talking about two institutions. One said, "I do not understand how it is that the University has so many students in regular courses in agriculture. "University A has splendid facilities and excellent specialists, in both respects superior to University B, and yet has practically no students except in the short winter courses." The other person replied, "There are probably several reasons, but the following seems to me an important one: University A teaches that it is a good thing to have a good education, but a much more important one to make good butter. University B constantly holds before its students the idea that it is a splendid thing to be a good butter maker, but much more important to be an educated man." This is not quoted to discuss the propositions involved, but to emphasize the fact that in my own teaching, and in this discussion, I keep the latter propo-

sition prominently in mind. My attempt is to train as well as to inform, to give power as well as knowledge, to make men as well as educated farmers.

While I am unalterably committed to instruction in technical agriculture, I would prefer a man well educated in Greek to conduct a farm for me, to a man poorly educated in agriculture.

The method of instruction in agriculture depends largely upon the previous training of the student. 25 to 30 students in the agricultural courses of the Ohio State University take forging and wood work in the Mechanical department each winter. These students possibly constitute one-fifth of the students that take this work; the rest being mostly from the Engineering courses. The director of the Industrial Department and the instructor in the forge shop are emphatic in their statements that the agricultural students do more and better work in the same time than any other students who come to them for instruction.

On the other hand when we consult the instructors in Mathematics and Physics, we find that as a class the agricultural students do less work in a given time than their neighbors. Without making too much of this, I think it is clear that the previous training of the agricultural student has taught him to *do* much more proficiently than it has taught him to *think*. It is not necessary in this audience to insist that students be taught both to do and to think; not only because in after life they must both do and think, but because the two faculties assist one another and make each more proficient and accurate. To my mind, however, our methods of instruction should recognize that the agricultural student needs especially to be trained into habits of thought; for this reason I prefer poor text-books even to good courses of lectures. Most of the students who



come to me for instruction have had at least one year's training in the institution before entering my classes, yet I prefer, as far as possible, to assign definite daily lessons to be prepared either from text-books, library references or by the giving of special problems to be worked out. I like to get these students upon their feet in the recitation room and have them tell what they have learned. If I wish to add anything to what they have found in the text-book or elsewhere I prefer to do it by asking them questions, which will enable them to think it out. I am aware this is considered old fashioned, and is no longer popular as a University method. I believe, however, that such a method followed systematically and consecutively, three to five days each week, week after week for nine months, will produce a growth in your student that is substantial and lasting, and quite as rapid for this class of students as any other. With seniors and advanced students they may be profitably thrown somewhat more upon their own resources, and here lectures and seminary methods may be profitably employed.

Methods of instruction are modified by the fact that it is not desirable to teach students that which they know already. We may for this reason teach students to judge cows, but not to milk them. By growing small plats for the purpose, we may teach students to judge of the character and value of varieties of corn, but generally speaking, it would be wasting their time to teach them to plant or to husk it. We may teach students the manual operation of butter and cheese making, of the laying of tile drain, of budding and grafting, but speaking generally, not those of plowing, sowing or harvesting.

The methods of instruction are, like the pleasures of Colorado tourists—largely modified by the weather. I believe I could arrange a practicum

for one half day each week in the year, which would be of distinct value. These practicums, however, must be held at definite and regular times, to fit the University schedule. Indeed, if there were no University schedule, they should be regular and systematic. If reflection does not convince you that this is impracticable in any country where it rains on an average one day out of three, try it.

Agriculture is a comprehensive term and the method of instruction will depend upon whether the instruction is on farm equipment, soil physics, farm crops, stock breeding, stock feeding, butter making or rural economics. The best way to learn to judge live stock is to judge them. The best way to get a clear understanding of the history of agriculture is by reading and reflection.

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#### O. S. U. Dairy Notes.

Last March there were in the Ohio State University Dairy twenty-seven milch cows with horns and seven that had been dehorned. This gave a good opportunity to notice the effect of dehorning on the milk flow. After the cows were milked on the evening of March 30, the horns were taken off eighteen of the cows. Nine were not dehorned. The milk record for the morning of March 31 showed a slight fall in amount of milk from the previous morning by the nine cows which were not dehorned. The eighteen which were dehorned showed an average drop of two pounds of milk. By the next evening the milk records showed no marked difference for either those that were dehorned the day before or those that were not dehorned.

The dehorning was done by a dehorning saw and clippers. Two kinds of clippers were used. The students seemed to prefer the Keystone dehorning clippers to either the saw or the other clippers. The work was nicely



done. We are proud of the smooth heads which the cows now have.

Later in the spring we dehorned some calves with caustic potash. Two were dehorned when one week old and one when three weeks old. These calves are six months old and there is no sign of horns on their heads. The caustic method seems to be preferred by those who argue the cruelty of dehorning, but who consider it necessary. It surely is an easy way to get rid of the horns. It is preferable to have it done when the calf is one week old. To do it we first cut the hair off the horn button with a pair of shears. Then slightly moisten the stick of caustic and apply to the bare spot by rubbing. Care should be taken to get enough on but in the right place.

There are liquid preparations which I should consider rather more convenient than the stick caustic, but I have never used any of them.

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## THE USE AND ABUSE OF THE FOREST.

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An Abstract of the Opening Address in the Agricultural Lecture Course for 1895-6, School of Agriculture, Ohio State University,  
by President James H. Canfield.

The President said that he would take as his text either of the following: "Men in all lands and climates seem determined to bring upon future generations two calamities at once—the want of fuel and the scarcity of water." "The hand of man produced this desert (the Sahara) and every other desert on the face of the earth." "Earth was an Eden once; our sins against the world of plants have brought on us all our misery; the burning sun of the desert is a flaming sword between us and Paradise." Though these are extreme

statements, there is in them a vast deal of truth. The whole question of our treatment of the forest is a great question fraught with interest to us all, terrible in the penalties which are threatened through ignorance and indolence.

What is the practical value of timber then aside from the market value? We have three classes of soil with which to deal. First, the impervious soil, off which water runs as readily as though it were the best canvas. Second, the pervious soil with impervious sub-soil, which is the source of all our wet spots, swails and swamps. Third, soils that are pervious throughout with almost no power of retaining moisture. The effects of timber upon such soils are to be regarded from the examination of the work of either the roots or the branches.

The ramifications of the roots of trees are something wonderful and almost past comprehension. In the impervious soils the roots create natural waterways; channels by which the moisture is carried to great depths and extended over large areas. In the pervious soils the roots form net works, or obstructions and hold the moisture in check and form a sort of anchorage for the soil itself. As to the leaves and branches—the leaves and other refuse from the tree form a dense packing, a mass of decaying vegetable matter, which both protects and stimulates all natural forces and qualities of the earth. It acts like a huge sponge, takes up quantities of moisture and holds it in direct contact with impervious soils, softening them and hastening the process of disintegration already begun by the roots, and detaining rainfall that would otherwise drain away. In the case of pervious soils, the effect of shades in summer and of warmth in winter, and of the dead mass, is to enrich and give firmness and consistency to what was before a somewhat doubtful value. Further, both leaves

and branches protect the soil from the violence of the storms. The weight of falling water, and especially of impact or driven water, as in a driving storm, is greater than most of us imagine.

The effect of all this upon the climate seems to be quite marked. Not only is the moisture retained, but the air is filled with that which has been taken up by the roots but thrown out through the leaves by evaporation. The general atmosphere is rendered more equal; as trees in and of themselves temper both heat and cold. Still further, the general effect upon climate is shown by the fact that the western continent (wooded) is colder than the eastern along the same latitudes (stripped).

We ought to be more frugal in many ways. We ought to inclose each twenty or forty acres with double or triple rows of trees. The expense would be slight and the loss of land not nearly so great as the gain in other ways. Much land that is now called waste land should be given over to timber. Much land now overrun by cattle and not yielding twenty-five dollars per year in actual pasturage would become valuable if let alone. More intelligence should be shown in cutting timber. There is such a thing as a timber crop, just as there is a wheat crop. In timber already standing a little labor each year should be expended in removing tops and broken branches and clearing underbrush. We should do more than we are now doing to prevent forest fires. The state might very properly encourage tree planting or timber preservation by certain exemption from taxation. Above all, we should require that at every school and in every educational institution over which the state has any control, or to the support of which the state contributes, there should be information and instruction as to the effects of deforestation.

The possessions of man are in the nature of trusts; none more so than the possession of land and woodland—two conditions precedent of existence itself. He who unnecessarily destroys a single tree does his part toward making the earth a desert. The problem of storing, regulating and distributing moisture is one of the utmost importance. Only by wise and united action—action characterized by large aims and great unselfishness, can we hope to succeed.

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### Ohio as a Dairy State.

[From an address of the Hon. J. T. Brooks, General Counsel of the Pennsylvania Railroad Company, to the business men of Columbus at a dinner given to President Canfield, of the Ohio State University, at the Columbus Club, Nov. 25, 1895.]

I wish to say a few words to the business men of Columbus, and through them to the merchants and manufacturers of Ohio, on the present condition of the farmers of this state. People engaged in farming are estimated to be about one-half the population of the country. They form a large part of the body of consumers. They work with tools and implements which are constantly in need of renewal and repair. When they have money to spend, their custom forms a large part of the income of those who make and those who sell articles of necessity, convenience and luxury. When they are poor and have no money except to pay taxes, there is hardly a merchant, a manufacturer or a mechanic whose income is not reduced by the loss of the farmer's custom.

It is, therefore, wise for business men whose prosperity depends largely on the prosperity of farmers to consider what they can do—and do all they can to make farmers prosperous.

Argument is not needed to show that for years the farmers of Ohio have been growing poor; proof is on every hand. I think it was Governor Foraker who said in one of his messages to the Legislature, that since the census of 1880, farm lands in Ohio had fallen nearly fifty per cent. in value. Ohio farms are cheap because they are not wanted. They are not wanted because money is not being made out of them.

The time is at hand, therefore, when farmers in Ohio must realize that the world is leaving them behind, and if they would escape financial ruin they must think, decide and act otherwise than they have heretofore done. There still remain a few sources of income which are not only available, but even most hopeful, by reason of the geographical position of the state, and chief among them I reckon the dairy interest. Cities to the east of Ohio are growing marvelously in population. Wise men predict that the future seat of empire in the production of iron and steel in America will be within the triangle at whose points are the cities Cleveland, Pittsburgh and Buffalo. The best market for choice farm products is where the swarming population earns large wages in the heat and glare of furnaces and mills. Why do not the farmers of Ohio seize upon this opportunity and supply that market with the best butter and cheese that America can produce? It is a reproach to them that her grocers go to Eastern New York to buy cheese. It is a greater reproach to them that the wide-awake farmers of Illinois, Iowa, Wisconsin and Minnesota ship annually across the state of Ohio to eastern cities tens of thousands of tons of butter, a large part of which Ohio could put into market if she would, but which she does not do, simply because her farmers are asleep while her western neighbors are wide awake.

How shall we arouse this torpid mass of Ohio agricultural stupidity and compel Ohio farmers to save themselves from debt and the sheriff? Business men in towns and cities must take the task in hand and improve the farmer's condition, in order that one-half the people of the state may become prosperous, and thereby a broader foundation be laid for the wealth of towns and cities. There is no agency more potent to do this work than the Ohio State University. That institution is now happily organized to render great service to the farmers of the state. But let us see to it that at the coming session of the Legislature a fair appropriation is secured to equip the University with every needed appliance to qualify it for the highest development of the dairy interest.

The officers of that institution can be trusted to do all that is needed, if the Legislature will provide the money. They will first teach the Ohio farmer that a few good cows are his best and about his only good investment, in these dark days of farming. They will teach him as the agricultural chemist of New York taught the farmers of that state a few years ago, that if one-half the cows in the state were slaughtered at once, the owners would be richer, not because there would be fewer cows, but because more than one-half the cows in the state are not worth their keeping; in other words, they do not pay their board. This startling fact was not stumbled on, nor guessed at; it was the result of a long continued and careful test of the value of milk, yielded by a given number of cows at a given number of creameries, located in different parts of the state. They will teach the farmer how to feed and care for cows to produce the best result; how each farmer and even each hired man can by a simple and reliable test, determine whether a cow should be kept or killed; and especi-



ally will they teach the farmers' sons the art and mysteries of fine butter and cheese making, so that these young men having learned from competent teachers the practical and successful side of scientific dairying, may return to farms and creameries all over the state and introduce methods and business ways which will soon turn years of loss into years of profit, and make farming pay and farmers happy.

### The Effect of Food Upon Taste and Odor of Milk.

I think any one who has ever handled milk will admit that its taste and odor is affected by the kind of feed the cows eat. To me this has been proven time and again. We have about thirty cows at the Ohio State University, and oftentimes we are obliged to change the feed. For example, we change from feeding hay to millet, and the change is immediately recognized in the taste and odor of the milk. If the first feed of millet is given to the cows at a certain hour of the day, and the cows are being milked while they eat or soon after, the customer to whom the milk is sold will notice the change and inquire what kind of weeds we had been feeding the cows. My attention was called to this fact more forcibly within the last two months than ever before. It was in the use of silage for feed and happened in this way: The silage was put in mangers while the cows were out in the lots, and when milking time came they were turned in and of course would eat the silage while they were being milked. Although it did not give an offensive taste or odor to the milk, it affected it peculiarly, and customers would often ask the cause of it. Lately we changed the time of feeding until after the milking was done, and the change was decidedly noticeable, the peculiar taste and odor being much lessened.

I used to think that it would take days to notice the change of taste or odor in the milk after the cows were fed a certain feed, but I am now convinced that not more than a few minutes are required, and from that we can infer that the feed need not be digested in order to produce the change. As to how this change takes place several suggestions have been made. One is that the air is contaminated by the feed and its taste and odor absorbed by the milk, and then comes the change, but it appears to me that is not possible for two reasons. First, because certain kinds of food samples, cabbage leaves or turnip tops, do not seem to contaminate the air as far as smell is concerned, but when eaten by cows affect the milk very much. Second, because cows that eat rag-weeds out of the pasture during the day, and are taken home in the stable at night to be milked, where the air would hardly be contaminated, yet the milk from such cows has a decidedly bitter taste and strong odor.

Another suggestion is that the food enters the stomach and is digested, the taste and odor go through the animal as do the elements in the food go to nourish the body, but since the taste and odor appear so quickly in the milk after the food is eaten, as shown above, this suggestion seems almost impossible.

My suggestion, which is a theoretical one, is this: While it does not answer the question it looks reasonable to me. From physiology we learn that every drop of blood in a living body makes a complete circuit in a certain length of time. Now, as the blood goes to the lungs for purification, and is mingled there with the breath of the animal and returns to the heart by which it is forced through the body, it is possible that the cow, when she is eating, or even when she is chewing her cud, is taking the small particles which contain the taste and odor through

her breath into her lungs, where they may be taken up by the blood and carried through the system the same as other nourishing products.

It is established that milk is manufactured in the animal from the blood, but how is not thoroughly understood. There are some things in the blood which are not in the milk, and vice versa, but some things, for example, albumin, is found in both blood and milk, and since we do not know in all cases what an odor or taste is chemically, we cannot make the taste satisfactorily until we get better developed apparatus.

F. L. PFARR.

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The daily grain ration for each of our cows at present is 55 pounds of silage, 5 pounds of shredded corn stover and 6 pounds of grain feed. The grain feed is composed of one pound each of wheat bran, cotton seed meal, Buffalo gluten meal and three pounds of corn and cobmeal. We began with two pounds of cotton seed meal in the mixture, but the cows did not like it. So we replaced one pound of cotton seed meal with one pound of gluten meal. This mixture the cows eat very well.

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MR. G. AUMEND, a former well-known student in the school of agriculture, is now teaching in the Indian school at Sun River, Montana. He writes Professor Lazenby "of how glad to hear that the State University is making such rapid advances. It will one day, no doubt, be a great educational center. I hope your department is not being neglected by the Trustees. It has done much good and deserves the fullest recognition. I teach 48 young Indians, and a part of their work is in agriculture and horticulture."

THE last meeting of the Ohio State Horticultural Society, held in Canton, was a signal and all-inspiring success. Professor Lazenby and Dr. Aldrich represented the State University. The former was elected Vice President and the latter appointed as member of the executive committee. Among the equally interesting and profitable features of the meeting were two addresses by Professor L. H. Bailey, of Cornell University.

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PROF. W. B. ALWOOD, a former student of the agricultural department of the University, now Professor of Horticulture in the Virginia Agricultural College, writes as follows: "I was glad indeed to learn that the University is so prosperous and have been looking forward with great longing for the last two years, for the opportunity to come back and study for a year or so."

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